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ABSTRACT

Numerous theories of depression have been proposed and tested with several variables being implicated in the etiology of unipolar depression in the last 15 years. The time has come for unification and integration of recent depression research. Four characteristics of the preunified theory of depression include: (1) failure of researchers to relate their findings to the existing knowledge base resulting in a less than optimum cross-fertilization of specialties of psychology; (2) the premature abandonment of hypotheses which fail to account for all cases of depression; (3) unnecessary restriction of theory and research approaches to particular methodologies; and (4) failure of many theorists to acknowledge the similarity of their ideas to the contributions of others. A paradigmatic behavioral theory of depression promotes an integrative, unifying paradigm of our knowledge of depression. This theory is designed to encourage an end to fragmentation by its integrative and not eclectic nature. Determinants of depression are proposed which can be understood within the context of well-established principles of classical and operant conditioning. As a base for this theory, a philosophy of science entitled unified positivism is employed. The evaluation of this paradigmatic behavioral theory of depression has just begun, but continuing research is planned. (ABL)

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The Paradigmatic Behavioral Theory of Depression

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In the early 1970's, the National Institute of Mental Health issued a statement concluding that there exists a dearth of information regarding the nature, determinants, treatment and prevention of depression (Secunda et al., 1973). This NIMH report reflected the fact that the research on depression since Freud's 1933 hypothesis was restricted to the investigation of psychotropic medication and loosely developed biological models of depression which followed Schildkraut's (1965) and Bunney and Davis' (1965) catecholamine hypothesis of mood disorders. In the last 15 years, however, the situation has become much different and we have seen numerous theories of depression being proposed and tested with over a dozen variables implicated in the etiology of unipolar depression (for a review, see Staats & Heiby, 1985). In addition, we have seen the development of the

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technical linear statistical tools which permit the simulataneous evaluation of multiple etiological variables, such as with the availability of LISREL computer program (Joreskog & Sorbom, 1981). Concurrent advances in causal analysis methodologies by Joreskog and others (Joreskog, 1977;Sorbom, 1976) permit the consideration of numerous factors as they affect depression concurrently and over time, allowing empirical evaluation of a complex theory.

It is the purpose of this paper to argue that the time is ripe for the unification and integration of the results of this developing area of depression research. This argument must, of course, be viewed within the context of the position offered by Staats (1983) and other philosophers of science (e.g.,Minke,in press) stating that psychology as a whole is developmentally prepared for a unifying paradigm and that the growth of the science of psychology has been stunted by its preparadigmatic status. I will discuss this developmental retardation in the degree of our understanding of depression in terms of four characteristics of research and theory in depression. Then I will describe an example of a paradigmatic behavioral theory of depression offered by Staats and myself as a third generation behavioral attempt to move toward the integration of our knowledge of depression.

One of the consequences of the fragmentation of psychology in general and in reference to depression in particular is the frequent failure of researchers to relate their findings to the existing relevant knowledge base. This impedes the cross-fertilization of specialties existing in psychology. For example, while there is a large body of research regarding the role of language and cognition in the definition, etiology and treatment of depression (e.g.,Hamren & Cochran,1981), these findings are rarely discussed in terms of the body of basic research in language and cognition. Similarly, the life events research on the effects of stress and social support on depression (e.g.,Dohrenwend & Dohrenwend,1981) is rarely related to the research on the same effects when studied under more specific behavioral definitions such as loss of reinforcement, reinforcement of depressive behavior , ratio strain, punishment or response-outcome independence. A unified theory of depression would require a consensus of terminology (Staats, in press) to facilitate the integration of related knowledge bases such as these.

A second preparadigmatic characteristic of the psychology of depression is the abandonment of hypotheses when they fail to account for all cases of depression or for some other nonempirical reason become unfashionable (Staats, 1983). One example of abandonment is seen in the 1985 revision of

Lewinsohn's theory of depression. The original 1974 theory hypothesized that deficient social skills predisposed an individual to depression because of the resulting loss of social reinforcement. The theory generated a large body of research which generally suggested that deficient social skills predispose an individual to depression (e.g., Henderson et al., 1981) and that treatment in social skills alleviates depression when social skills are deficient (e.g.,Heiby, 1986). The revision of this theory is commendable for integrating recent evidence supporting the role of several attitudinal and environmental factors which were absent in the 1974 version, but the revision omitted the role of deficient social skills and the purpose of this elimination is not clear (Lewinsohn, 1974; Lewinsohn et al., 1985).

Another example of premature abandonment of hypotheses is seen in Seligman's contributions to the understanding of depression. In 1975, Seligman offered a learned helplessness theory of depression which proposed that depression is caused by exposure to response-outcome independence in the environment. This testable hypothesis generated an enormous body of research, the results of which were mixed (Huesmann & Morikawa, 1985). Rather than explore the role of other variables which might have explained why only a subset of individuals become depressed following exposure to response-outcome independence, Seligman and

his colleagues (Abramson et al., 1978) revised their theory of depression and this revision did not include this environmental variable. Again, the revised theory provided no data or argument to explain the complete abandonment of the role of contingencies in the environment in understanding depression.

A third aspect of a preunified psychology of depression is the unnecessary restriction of theory and research approaches to particular methodologies as was discussed previously by Professor Minke. One example of this in the depression literature is the limitations faced by radical behaviorism's theory of depression as represented by Ferster (1973; 1981).

Ferster's 1973 theory abided by radical behaviorism's methodological orthodoxy and thereby included exclusively environmental variables which are measurable by direct observation, including loss of environmental reinforcement, strained ratio schedule of reinforcement, and massive punishment. There is a large literature supporting this hypothesis although one recent review concluded that these environmental factors alone account for less than 10% of the variance in the onset of depression (Hirschfield & Cross,1982). Apparently there are great individual differences in response to same environmental

change. The need to accommodate individual differences or personality factors in the prediction of depression left the radical behaviorists without a conceptual framework or a methodology to encourage the exploration of causes of depression that cannot be measured by direct observation. This orthodoxy made it impossible to accommodate individual differences in response to the environment and remain within the confines of radical behaviorism.

What happens to a radical behavioral theory of depression when revised to include personality? Ferster revised his theory in 1981 to suggest that some individuals become permanently immune to the contingencies in the current environment which reinforce nondepressive behavior and instead operate as if the environment were deprived of reinforcement. He labeled this behavior inertial perversity and proposed that the first inertially perverse behavior develops during early infancy following delays in feeding by the parent. If feeding is delayed or if food is presented in such a way that it is hard for the infant to suck, the child persists in demands until the parent reaches the limit of tolerance and reinforces the infants demands by feeding the infant. This struggle over feeding, Ferster reasons, then preempts playful and varied behavior. The child learns high frequency interpersonal control based largely on negative reinforcement and this power struggle creates a hiatus

in social development. Thus, the individual is deficient in social skills because of the habit of using aversive control of others and because of the history of inertial perversity so that adult behavior is more a function of deprivation in infancy than generalized reinforcement. Ferster goes on to suggest that adult speech is the functional equivalent of feeding and thus the adult depressive exhibits speech that aversively controls others (e.g., complaining) and that is more a function of deprivation than consequences.

The parallels between Ferster's 1981 and Freud's 1933 hypotheses about the etiology of adult depression are evident. Both view oral activity as the origin of adult depression. Both assume that behaviors occurring during early infant feeding activity permanently affects one's level of social skills as an adult. Both interpret adult verbal behavior as symbolic of infantile feeding experiences. And both suggest that adult behavior in the depressive is more a function of early infantile experiences than that of the current environment. These parallels are troubling and exemplify the problems of the preparadigmatic status of the psychology of depression. Over a span of 50 years, surely we have learned more about depression than Freud had to offer. Only in a preparadigmatic science would a scholar be able to reinvent an untestable theory which is over half a century old without citing the original theory, and while

ignoring an entire body of relevant research concerning measurable personality deficits related to depression.

I believe Ferster resorted to tautological reasoning and untestable hypotheses which sound oddly Freudian because he rigidly adhered to the methodological restrictions of radical behaviorism. Ferster ignored an entire body of literature concerning personality predispositions to depression because this research was based on methodologies rejected out of hand by the radical behaviorists, such as validated self-report measures and inferential statistics. Rather than accept the use of indirect, psychometrically valid, measures of human behavior, Ferster instead elected to propose determinants which are not measureable by either direct observation or indirect self-report! It is the methodological orthodoxy which, in my opinion, left Ferster with no option but to turn to a tautological explanation of depression. By rejecting the only methodology available to measure many aspects of human activity, such as in the self-report of attributions, Ferster left himself with no viable alternative in hypothesizing the reasons for individual differences in response to environmental change. Not everyone becomes depressed when faced with loss of reinforcement, ratio strain, or massive punishment. To address these personality differences, Ferster choose to infer the existence of inertial

perversity from the observation of depressed behavior without any independent verification that such perversity exists. Clearly, in order to unify our knowledge of depression, a theory must be based on a philosophy which permits the entire range of methodological approaches accepted by the scientific community.

A fourth characteristic of the preparadigmatic nature of the depression literature is the failure of many theorists to acknowledge the similarity of their ideas to the contributions of others (Staats 1983, in press), as was just seen in Forster's reinvention of the psychoanalytic theory of depression without crediting Freud and other analysts with the ideas. Staats and other philosophers of science have noted that an eagerness to possess important ideas as one's own is characteristic of a fragmented discipline and this is certainly apparent in the depression literature.

The overlap of theories and the failure to integrate experimental findings produced in others laboratories can be illustrated in Figure 1. Figure 1 summarizes the variables proposed by 11 major theories of depression in chronological order since 1933. There is at least correlational support for each of these variables with the arguable exception of oral fixation/inertial perversity. At a glance, it is evident that theories have not been built upon one another during the past

fifty years. Instead, we see a separatism in theory and research. The last theory listed on the Figure represents an attempt by Professor Staats and myself to offer an integrated, comprehensive paradigmatic behavioral theory which hopefully encourages the cumulative development of our understanding of depression.

THE PARADIGMATIC BEHAVIORAL THEORY OF DEPRESSION

I will not be describing all of the details of the paradigmatic behavioral theory of depression but I will highlight the characteristics of the theory which seem particularly relevant to the promotion of an integrative, unifying paradigm of our knowledge of depression.

First, the paradigmatic behavioral theory of depression is designed to encourage an end to the fragmentation of our knowledge of depression. The theory is integrative and not simply eclectic. There is no place in the theory, for example, of the role of oral fixation or inertial perversity in understanding depression. Oral fixation as a variable was rejected because this concept is not testable and does not fit into other known principles of behavior.

Second, the paradigmatic behavioral theory proposes determinants of depression that can be understood within the context of the well-established principles of classical and operant conditioning. This is in contrast to other theories of depression which have abandoned these principles without explanation for this abandonment. The paradigmatic theory also proposes that it is the classical and operant learning history of the individual which results in deficient behavioral repertoires which, in turn, render an individual predisposed to depression in the face of detrimental environmental conditions. This is in contrast to other theories which focus only on personality (e.g. Beck, 1967) or only environmental determinants of depression (early Forster and early Seligman). The paradigmatic behavioral theory hypothesizes that predisposing behavioral characteristics interact with precipitating environmental and biological factors to create a stimulus complex that has been classically conditioned to elicit dysphoria. It is this dysphoria which is incompatible with adaptive functioning and that sets the stage for behaviors associated with dysphoria, such as the loss of interest in pleasure activities. No prior behavioral theory has proposed an explanation for the dysphoria in depression, which is a bit ironic given that mood is the defining characteristic of this disorder. The theory also predicts that there are numerous etiologic factors and thus numerous possible etiological subtypes of depression. At least 35 subtypes have been hypothesized.

This is in contrast to other theories which continue to conceptualize depression as a more unitary phenomenon.

Third, the paradigmatic theory is also based on a philosophy of science entitled unified positivism (Staats, in press) which encourages the application of all scientifically sound approaches to experimentation. This is in contrast to radical behaviorism which rejects certain methodologies and thereby restricts the phenomenon of study.

The other primary components of the theory are illustrated in Figure 2.

One way to assess the timeliness of unification of psychology in general is to evaluate the feasibility of unification of one content area. The evaluation of the paradigmatic behavioral theory of depression has only just begun. We are currently in the process of developing psychometrically sound measurement tools necessary for the evaluation of the proposed determinants of depression. We are also planning a multivariate longitudinal study in which all proposed predictors of depression are assessed simultaneously over time to permit the identification of the interaction of behavioral and environmental conditions and to make causal inferences. Such a complex study is now possible to conduct with the technological advancements,

such as the availability of the computer program LISREL which I referred to earlier. We expect to have the results of this investigation within about five years and certainly these results will help evaluate whether the paradigmatic behavioral theory of depression is efficacious and also whether the science itself has entered the zeitgeist for unification.

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Figure 1

THEORIES OF DEPRESSION

VARIABLE	Freud (1933)	Bunney & Davis (1965)	Beck (1967)	Ferster (1973)	Seligman (1975)	Lewinsohn (1975)	Rehm (1977)	Seligman (1978)	Ferster (1981)	Lewinsohn (1985)	Staats & Heiby (1985)
ENVIRONMENTAL											
loss of reinf.	X			X		X				X	X
reinf. of dep.						X					X
ratio strain				X							X
pun. nondep.				X						X	X
r-c indep.					X						X
PERSONALITY											
poor social skills						X					X
misattributions								X			X
cog. dysfunctions			X							X	X
poor self-reinf.							X			X	X
poor pos. emot.											X
excess neg. emot.											X
oral fix./i.p.	X								X		
biochemical		X									X

Figure 2

STAATS-HEIBY THEORY OF DEPRESSION